	Application No.	Applicant(s)
Notice of Allowability	09/759,671	ST. JOHN ET AL.
	Examiner	Art Unit	
	Inder P. Mehra	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment dated: 7/5/2005.*.

2. ☒ The allowed claim(s) is/are *1 and 5,8,6-7,9-12,15,17-27(Renumbered as 1-21 respectively)*.

DANG TON
PRIMARY EXAMINER

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the

            International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
    Paper No./Mail Date 7/5/05

4. ☐ Examiner's Comment Regarding Requirement for Deposit
    of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413),
    Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

1.   This office action is in response to amendment dated: 7/5/05.

Allowable Subject Matter

2.   Claims 1, 5-12, 15 and 17-27 are allowed.

REASONS FOR ALLOWANCE

3.   The following is an examiner's statement of reasons for allowance:

The prior art of record does not disclose, teach or suggest directly or indirectly the

following limitations in combination with other limitations of the claims:

As recited by claims 1 and 24,

        "directing the newly received request for access to the shared communication

medium into an initial queue in the-low priority tier if throughput for an end user

associated with the request for access meets or exceeds the guaranteed throughput;

        reading queued requests for access from the RPQ. wherein the queued requests

are read from the high priority tier before the queued requests are read from the low

priority tier of queues. said reading step comprising:

        reading the queued requests from secondary queues of the high priority tier;

        then reading the queued requests from secondary queues of the low

priority tier:

        then reading the queued requests from initial queues of the high priority

tier; and

then reading the queued requests from Initial queues of the low priority tier; and

allocating bandwidth-based on the order in which the queued requests are read

from the RPQ".

As recited by claim 11,

directing a newly received request for access to an upstream channel of the

cable television system into an initial queue in the high priority tier if throughout

for an end user associated with the newly received request for access fails to meet a

guaranteed throughput

directing the newly received request for access to the upstream channel of the

cable television system into an initial queue in the low priority tier if throughput for an

end user associated with the request for access meets or exceeds the guaranteed

throughput:

reading requests for access from the RPQ. wherein requests for access are read

from the high priority tier before requests for access are read from the low priority tier:

generating a map allocating upstream bandwidth based on the read requests;

and

broadcasting the map to cable modems on a downstream channel.

As recited by claims 12 and 25,

if the throughput guarantee associated with the given connection is not met

queuing information in the high priority tier Indicating bandwidth requirements for

the given connection;

if the throughput quarantine associated with the given connection is met. queuing

information in the low priority tier indicating bandwidth requirements for the oven

connection: and

allocating bandwidth for each connection based on an order in which the

Information indicating bandwidth requirements for each connection is read from the

RPQ

wherein the information indicating bandwidth requirements comprises packets.

and the step of allocating bandwidth includes reading the packets from the RPQ and

placing the read packets in an output queue in transmission order.

Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for

Allowance."

As recited by claim 15;

a second tier of revolving priority queues configured to store requests for

bandwidth. said second tier being operablv coupled to the first tier so that requests for

bandwidth from the first tier of revolving priority queues are promoted to the second tier

of revolving priority queues; and

a request evaluator circuit configured to determine whether a throughput

guarantee associated with the given request is met. and to selectively direct
the given request to either the first tier of revolving priority queues or the second
tier of revolving priority queues based on whether the throughput guarantee
associated with the given request is met.

As requested by claim 26,

computer readable program code which directs a newly received request
for access to the shared communication medium into an initial queue in the high priority
tier if throughput for an end user associated with the newly received request for access
fails to meet a guaranteed throughput;

computer readable program code. which directs the newly received
request for access to the shared communication medium Into an initial queue in the low
priority tier if throughput for an end user associated with the request for access meets or
exceeds the guaranteed throughput:

computer readable program code, which reads queued requests for
access from the RPQ. wherein the queued requests are read from the high priority tier
before the queued requests are read from the low priority tier of queues. wherein the
queued requests are read first from secondary queues of the high priority tier. then from
secondary queues of the low priority tier, then from initial queues of the high priority tier,
and then from initial queues of the low priority tier; and

computer readable program code. which allocates bandwidth based on
the order in which the queued requests are read from the-RPQ.

As recited by claim 27,

> computer readable program code. which determines whether a throughout guarantee associated with a given connection is met:

> computer readable program code, which queues information in the high priority tier indicating bandwidth requirements for the given connection if the throughput guarantee associated with the given connection is not met.

> computer readable program code, which queues information in the low priority tier indicating bandwidth requirements for the given connection if the throughput guarantee associated with the given connection is met, and

> computer readable program code, which allocates bandwidth for each connection based on an order in which the information Indicating bandwidth requirements for each connection is read from the RPQ;

> wherein the information indicating bandwidth requirements comprises packets. and the computer readable program code that allocates bandwidth reads the packets from the RPQ and places the read packets in an output queue in transmission order.

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P. Mehra whose telephone number is 571-272-3170. The examiner can normally be reached on Monday through Friday from 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Inder P Mehra
Examiner
Art Unit 2666